

acid sequence comprising 250 amino acids and encodes an amino acid sequence that is 98% identical with barley chitinase cDNA.

14. (Amended) A winter wheat chitinase cDNA according to claim 13, characterized in that said cDNA has nucleotide sequence that encodes an amino acid sequence listed as SEQ. ID No. in Fig. 1.

Sub G1 15. (Amended) A winter wheat chitinase cDNA according to claim 12, characterized in that said cDNA comprise 972 nucleotides which encode an amino acid sequence comprising 323 amino acids and encodes an amino acid sequence that is 68% identical with rye chitinase cDNA.

F 16. (Amended) A winter wheat chitinase cDNA according to claim 15, characterized in that said cDNA has nucleotide sequence that encodes an amino acid sequence listed as SEQ. ID. No. 2 in Fig. 2.

Sub G2 17. (Amended) A winter wheat chitinase cDNA according to claim 12, characterized in that said cDNA comprises 960 nucleotides which encode an amino acid sequence comprising 319 amino acids and encodes an amino acid sequence that is 95% identical with spring wheat chitinase cDNA.

18. (Amended) A winter wheat chitinase cDNA according to claim 17, characterized in that said cDNA has a nucleotide sequence corresponding to a polynucleotide sequence listed as SEQ. ID. No. 3 in Fig. 3.

19. (Twice Amended) A method of isolating the winter wheat chitinase cDNA of claim 12 having a nucleotide sequence which encodes an amino acid sequence listed as SEQ. ID. No. 1 in Fig. 1, a winter wheat chitinase cDNA having a nucleotide sequence corresponding to an amino acid sequence listed as SEQ. ID. No. 2 in Fig. 2, a

winter wheat chitinase cDNA having a nucleotide sequence corresponding to an amino acid sequence listed as SEQ. ID. No. 3 in Fig. 3, said method comprising the steps of:

extracting mRNA from winter wheat variety that has undergone a sufficient hardening process:

preparing cDNA and a cDNA library based on said mRNA;

analyzing nucleotide sequences of a number of plant-derived chitinase cDNAs which have all been published by EMBL/Genebank/DDBJ DNA Databank;

F (designing a pair of chitinase cDNA-specific degenerated primers with reference to highly conserved nucleotide sequence portions of the plant-derived chitinase cDNAs;

conducting PCR (polymerase chain reaction) using a pair of chitinase cDNA-specific degenerated primers and using said cDNA as a template, thereby amplifying fragments of chitinase cDNAs and obtaining amplified DNA fragments; and

using said amplified DNA fragments as probes for screening said cDNA library by a hybridization assay, to isolate recombinant plaques containing full length cDNA.

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Please cancel claims 21 and 22 without prejudice to or disclaimer of the subject matter contained therein.

Please add new claim 24 as follows:

F2 <sup>July 93</sup> ~~24.~~ The winter wheat chitinase cDNA of claim 12, wherein the cDNA has been synthesized from mRNA extracted from winter wheat.--

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